

P24821.A04

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. - 20. (canceled)

21. (previously presented) A process for the production of a printed substrate, which process comprises:

- (i) image-wise applying to a substrate a printing paste comprising:
 - (a) a matrix-forming condensate which comprises polyorganosiloxanes, obtainable by a sol-gel process, and
 - (b) at least one filler selected from coloring fillers, luminescent fillers, conductive fillers and catalytically active fillers; and
- (ii) densifying the image-wise applied paste to form a matrix which contains the at least one filler by a heat treatment at a temperature below the glass transition temperature of the thus-formed matrix.

22. (previously presented) The process of claim 21, wherein the heat treatment is

P24821.A04

conducted at a temperature which is at least 200 °C below the glass transition temperature of the matrix.

23. (previously presented) The process of claim 21, wherein the heat treatment is conducted at a temperature which is at least 400 °C below the glass transition temperature of the matrix.

24. (previously presented) The process of claim 23, wherein the heat treatment is conducted at a temperature which is up to 700 °C below the glass transition temperature of the matrix.

25. (previously presented) The process of claim 22, wherein the heat treatment is conducted at a temperature of from 400 °C to 800 °C.

26. (previously presented) The process of claim 21, wherein the printing paste is applied to the substrate by a process which comprises one of screen printing and pad printing.

27. (previously presented) The process of claim 21, wherein the substrate comprises at least one of a glass substrate, a glass-ceramic substrate and a ceramic substrate.

P24821.A04

28. (previously presented) The process of claim 27, wherein the substrate comprises a conductive coating.

29. (previously presented) The process of claim 28, wherein the conductive coating comprises at least one of tin oxide and indium tin oxide.

30. (previously presented) The process of claim 21, wherein the printed substrate comprises at least one of conductor tracks, spacers and a decorative pattern.

31. (previously presented) The process of claim 30, wherein the printed substrate comprises conductor tracks.

32. (previously presented) The process of claim 21, wherein the at least one filler comprises a conductive filler.

33. (previously presented) The process of claim 21, wherein the at least one filler comprises a catalytically active filler.

34. (currently amended) A composition comprising:

P24821.A04

- (a) a matrix-forming condensate which comprises polyorganosiloxanes, obtainable by a sol-gel process which comprises a partial hydrolysis and polycondensation of:
 - (A) at least one organosilane of formula $R_nSiX_{(4-n)}$, wherein each R independently represents a non-hydrolyzable group, each X independently represents a hydroxy group or a hydrolyzable group, and n represents 0, 1, 2 or 3; or an oligomer derived therefrom;
 - (B) optionally, at least one silane of formula SiX_4 , wherein X is as defined above, and
 - (C) optionally, one or more compounds of at least one of glass-forming elements and ceramic-forming elements;
- (b) at least one filler selected from coloring fillers, luminescent fillers, conductive fillers and catalytically active fillers;
- (c) at least one organic solvent having a boiling point of at least 150 °C; and
- (d) at least one rheology control agent for providing structural viscosity or thixotropy.

35. (previously presented) The composition of claim 34, wherein component (A) accounts for at least 40 mol%, based on the total of components (A) to (C).

36. (previously presented) The composition of claim 34, wherein component (A) accounts

P24821.A04

for at least 60 mol%, based on the total of components (A) to (C).

37. (previously presented) The composition of claim 35, wherein component (B) accounts for not more than 40 mol%, based on the total of components (A) to (C).

38. (previously presented) The composition of claim 34, wherein the at least one filler comprises a conductive filler.

39. (previously presented) The composition of claim 38, wherein the conductive filler is present in an amount of from 50 to 80 % by weight.

40. (previously presented) The composition of claim 39, wherein the conductive filler is present in an amount of from 70 to 75 % by weight.

41. (previously presented) The composition of claim 34, wherein the at least one filler comprises a coloring filler.

42. (previously presented) The composition of claim 34, wherein the at least one filler comprises a luminescent filler.

P24821.A04

43. (previously presented) The composition of claim 34, wherein the at least one filler comprises a catalytically active filler.

44. (previously presented) The composition of claim 34, wherein the at least one filler comprises at least one of a dye, a colored pigment, a photoluminescent substance, a electroluminescent substance, an electrically conductive material, a photoconductive material and a catalytically active material.

45. (previously presented) The composition of claim 34, wherein the at least one filler comprises a particulate conductive material selected from gold, silver, copper, nickel, tungsten, molybdenum, tin oxide, indium tin oxide, lead zirconate titanate, graphite and combinations thereof.

46. (previously presented) The composition of claim 34, wherein the composition is essentially free of glass particles.

47. (previously presented) The composition of claim 34, wherein the at least one organic solvent comprises a solvent having a boiling point of at least 180 °C.

P24821.A04

48. (previously presented) The composition of claim 47, wherein the at least one organic solvent is present in an amount of up to 50 % by weight.

49. (previously presented) The composition of claim 34, wherein the at least one rheology control agent comprises an organic rheology control agent.

50. (previously presented) The composition of claim 34, wherein the at least one rheology control agent comprises at least one of a fish oil, a cellulose, a cellulose derivative and a polyalcohol.

51. (previously presented) The composition of claim 34, wherein the at least one rheology control agent is present in an amount of not more than 5 % by weight.

52. (previously presented) The composition of claim 50, wherein the at least one rheology control agent is present in an amount of from 0.5 % by weight to 2 % by weight.

53. (previously presented) A composition comprising:

(a) a matrix-forming condensate which comprises polyorganosiloxanes, obtained by a sol-gel process which comprises a partial hydrolysis and polycondensation of:

P24821.A04

- (A) at least one organosilane of formula $R_nSiX_{(4-n)}$, wherein each R independently represents a non-hydrolyzable group, each X independently represents a hydroxy group or a hydrolyzable group, and n represents 0, 1, 2 or 3; or an oligomer derived therefrom;
 - (B) optionally, at least one silane of formula SiX_4 , wherein X is as defined above,
and
 - (C) optionally, one or more compounds of at least one of glass-forming elements
and ceramic-forming elements;
- wherein component (A) accounts for at least 60 mol% of the total of components (A) to (C);
- (b) at least one filler which comprises a particulate conductive material selected from gold, silver, copper, nickel, tungsten, molybdenum, tin oxide, indium tin oxide, lead zirconate titanate, graphite and combinations thereof.;
 - (c) 1 % by weight to 30 % by weight of at least one organic solvent having a boiling point of at least 200 °C; and
 - (d) from 0.5 % by weight to 2 % by weight of a rheology control agent which comprises at least one of a fish oil, a cellulose, a cellulose derivative and a polyalcohol.